JavaScript Learning Notes

Key Concepts and Syntax Summarized

1. Object Destructuring

Extract properties from objects in a concise way.

```
const favouriteFilm = {
     title: "Top Gun",
     year: "1986",
     genre: "action",
     star: "Tom Cruise",
     director: "Tony Scott"
 };

const { title, year, genre, star, director } = favouriteFilm;
```

Equivalent to:

```
const title = favouriteFilm.title;
 const year = favouriteFilm.year;
 // and so on...
```

2. Array Methods: map() vs forEach()

map(): Used when you want to return a new array.

```
const numbers = [1, 2, 3];
 const doubled = numbers.map(num => num * 2);
 // doubled = [2, 4, 6]
```

forEach(): Used when you don't need a new array.

```
numbers.forEach(num => console.log(num));
```

3. The .join() Method

Joins array elements into a string.

```
const words = ["Hello", "world"];
 const sentence = words.join(" ");
// "Hello world"
```

4. Function Expressions

Functions stored in variables.

```
const greet = function(name) {
     return `Hello, ${name}!`;
 };
```

5. Arrow Functions

Short and clean syntax for function expressions.

```
const getSpendAlert = (amount) => {
     return `Warning! You just spent £${amount}!`;
 };
```

Arrow Function Shortcuts:

One parameter → no brackets needed:

```
const double = x => x * 2;
```

Zero or multiple parameters → brackets needed:

```
const sum = (a, b) => a + b;
```

Single line return → no {} or return needed:

```
const greet = name => `Hello, ${name}`;
```

More than one line → use {} and return:

```
const alertUser = amount => {
     const message = `Spent £${amount}`;
     return message;
 };
```